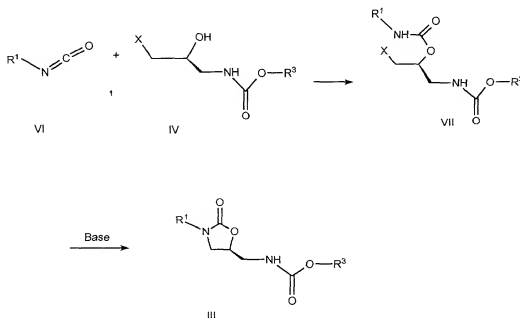


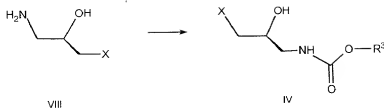
i.e., the reaction between a carbamate (I) with either an (S)-secondary alcohol (IV) or an (S)-ester (V) to provide a corresponding (S)-oxazolidinone (III). This process is performed in the same manner as that previously disclosed for Scheme 1.

- A third process to produce the (S)-oxazolidinone (III) is set forth in
- 5 Scheme 3 and involves a reaction between an isocyanate (VI) with either a (S)-secondary alcohol (IV) to give an (S)-intermediate (VII) via compound (VII). This process is performed in a similar manner as that previously disclosed for Schemes 1 and 2.
- 10 Scheme 3.



- The three carbon nitrogen containing fragments, i.e., (S)-secondary
- 15 alcohol (IV), (S)-epoxide (II), and (S)-ester (V), can be produced by different routes, as illustrated in Schemes 4, 5, and 6. Scheme 4 illustrates a process of preparing a

Scheme 4



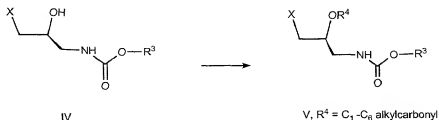
- (S)-3-carbon amino alcohol (IV) from an (S)-amino alcohol (VIII) and a dialkyldicarbonate. For the (S)-amino alcohol (VIII), X can be halogen, alkylsulfonyl, or arylsulfonyl. A preferred X is Cl. The (S)-amino alcohols (VIII) are known to those skilled in the art or can readily be prepared from known compounds by methods disclosed in WO 99/24393 from commercially available S-epichlorohydrin. The (S)-amino alcohol can be isolated in crystalline form after recrystallization. The reaction of dialkyldicarbonate and the (S)-amino alcohol (VIII) is performed as set forth in Example 3.

- It should be noted that starting with an enantiomerically pure (S)-amino alcohol (VIII) ultimately yields an enantiomerically pure (S)-protected alcohol (IV), (S)-ester (V), and (S)-epoxide (II). The absolute configuration of the carbon atom in the pharmacologically useful (S)-oxazolidinone compounds (X) and (XI) is "S", and therefore it is preferable to use enantiomerically pure (S)-amino alcohol (VIII) and obtain enantiomerically pure (S)-protected alcohol (IV), see Scheme 4. In the Schemes and the claims, the supra scripted "-(S)-" as  $-C^{(S)}$  denotes the asymmetric carbon atom has the appropriate enantiomeric configuration (S)- such that when this carbon atom becomes part of an (S)-oxazolidinone (III, X, or XI), it is the preferred enantiomer. If any of the chemical sequences of the processes of the present invention begins with an optically impure (racemic) form, rather than an enantiomerically pure form, the products obtained are the corresponding optically impure (racemic) forms.

Scheme 5 illustrates a process for converting an (S)-carbamoyl alcohol

Scheme 5

5



(IV) to a corresponding (S)-secondary ester/protected alcohol (V). To convert an (S)-carbamoyl alcohol (IV) to a corresponding (S)-secondary ester/protected alcohol (V), the (S)-carbamoyl alcohol (IV) is reacted with an appropriate acylating reagent, such as an acyl halide or acyl anhydride, under acylation reaction conditions well known to those skilled in the art. The (S)-secondary protected-alcohol can be isolated in crystalline form after recrystallization. For example, an (S)-carbamoyl alcohol (IV) can be transformed to a corresponding (S)-secondary ester/protected alcohol (V) by reaction with acetic anhydride in triethylamine, as is set forth in Example 4. For the (S)-3-carbon amino alcohol (IV), X can be halogen, alkylsulfonyl, or arylsulfonyl, and preferably is Cl. For the corresponding corresponding (S)-secondary ester/protected alcohol (V), R⁴ is C<sub>1</sub>-C<sub>5</sub> alkylcarbonyl and preferably is acetyl. It is preferred that the acylating reagent be selected from the group consisting of an acid anhydride of the formula O(R⁵)<sub>2</sub>, wherein R⁵ is C<sub>1</sub>-C<sub>6</sub> alkylcarbonyl, or an activated acid of the formula R⁵ X, wherein X can be halogen, alkylsulfonyl, or arylsulfonyl and preferably is -Cl or -Br, and used in conjunction with base, preferably a tri(C<sub>1</sub>-C<sub>3</sub> alkyl)amine. It is more preferred that R⁵ is acetyl and X is -Cl. Specifically, the more preferred acylating reagent is an acyl anhydride, and it is most preferred that the acyl anhydride is acetic anhydride.

25 Scheme 6 shows a process of preparing a (S)-epoxide (II) from either